

DUNAYEV, Yu.D.; KIR'YAKOV, G.Z.

Potentials of lead-base cermet anodes in sulfuric acid solutions.  
Izv. AN Kazakh. SSR. Ser.khim. no.1:12-18 '58. (MIRA 12:2)  
(Electromotive force) (Electrodes) (Sulfuric acid)

KIR'YAKOV, G.Z.; BAYONIYEVA, F.K.

Simultaneous formation of hydrogen and zinc on binary cathodes in  
the presence of some surface active substances. Izv. AN Kazakh.  
SSR. Ser.khim. no.1:19-22 '58. (MIRA 12:2)  
(Hydrogen) (Zinc) (Surface-active agents)

SHELUDYAKOV, L.N.; KIR'YAKOV, G.Z.

Complex extraction of heavy metals from molten silicates by cementation with carbon-saturated liquid iron. Izv. AN Kazakh. SSR. Ser. khim. no.1:29-37 '58. (MIRA 12:2)

(Metallurgy)

(Slag)

SHELDYAKOV, L.N.; KIR'YAKOV, G.Z.; LYUBIMOVA, L.S.

Complex extraction of metals from molten slags of shaft-furnace lead  
smelting by cementation with carbon-saturated liquid iron. Izv. AN  
Kazakh. SSR. Ser.khim. no.1:38-45 '58. (MIRA 12:2)  
(Metallurgy) (Slag)

KIRYAKOV, G. Z.

ZEBREVA, A. I.

5(2)

PHASE I BOOK EXPLOITATION

001/1679

Abdumajitovich Khamatov, Ed., Institut Khimicheskikh Nauk

Issledovaniya po elektrokhemii raznykh rastvorov i rastvorov i anal'gumnykh metallurgii (Research on the Electrochemistry of Water Solutions, Fusions and Amalgam Metallurgy) Akad. Nauk, Kazan, 1958. 128 p. (Series: [12] Trudy, 9. 9) 1,500 copies printed.

Ed.: V.V. Aleksandriyev; Tech. ed.: E.P. Barchina; Editorial Board of Series: I.I. Zolotarev, V.M. Ilyushenko, G.I. Kir'yakov (Deputy Assoc. Ed.), M.V. Kiselevich, (Assoc. Ed.) and L.S. Shalobayev.

PURPOSE: This book is intended for scientists and engineers in the electrochemical and non-ferrous metal industries.

CONTENTS: This collection contains 14 reports by the Laboratories for Analytical Chemistry and Electrochemistry attached to the Institute of Chemical Sciences, Academy of Sciences, Kazakh Republic. The analysis method of obtaining tellurium from lead powder, the electrolysis of sulfate solutions of zinc and the improvement of waste slag during nickel production are described. The majority of articles have a practical nature and deal with problems of developing and perfecting new electrochemical methods for the production of non-ferrous metals.

Zolotarev, I.I., M.V. Kiselevich, and G.I. Kir'yakov. Electrolysis of Sulfate Solutions of Zinc with a Mercury Cathode and a Low Content of Zinc in the Solution 59

Kiselevich, M.V., V.M. Ilyushenko, and G.I. Kir'yakov. Role of Hydrogen in the Zinc Electrodeposition Process 78

Vakhidov, R.S., and G.I. Kir'yakov. Electrodeposition of Cadmium Under Conditions of High Current Densities 82

Bumayev, Yu. B., and G.I. Kir'yakov. Lead-based Cathode Anodes 87

Shalobayev, L.S., L.S. Shalobayev, Yu. B. Bumayev, and G.I. Kir'yakov. Improvement of Fused Waste Slag From the Production of Nickel by the Displacement Method. Part I. 102

Shalobayev, L.S., and G.I. Kir'yakov. Improvement of Fused Waste Slag From the Production of Nickel by the Displacement Method. Part II. 111

Shalobayev, L.S., and G.I. Kir'yakov. Improvement of Fused Waste Slag From the Production of Nickel by the Displacement Method. Part III. 118

AVAILABLE: Library of Congress

25/100

KIR'YAKOV, G.Z.: BAYNIYETOVA, F.K.

Effect of the impurities of some metal ions on the cathode  
processes during the electrolysis of zinc sulfate at high current  
densities. Trudy Inst. khim. nauk AN Kazakh. SSR 3:64-71 '58.  
(MIRA 12:3)

(Zinc sulfate) (Electrolysis)

KIR'YAKOV, G.Z.; SHELUDYAKOV, L.N.; ZABOTIN, P.I.

Vladimir Vil'gel'movich Stender: on his 60th birthday and 36th anniversary of his scientific and pedagogical activity. Zhur. prikl. khim. 31 no.1:3-4 Ja '58. (MIRA 11:4)  
(Stender, Vladimir Vil'gel'movich 1897-)

KIR'YAKOV, G.Z.; SHELDYAKOV, L.N.; PETROVSKIY, Yu.V.

Obtaining pure xenon. Zhur. prikl. khim. 31 no.1:5-13 Ja '58.  
(Xenon) (MIRA 11:4)



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AUTHOR:

Kir'yakov, G. Z.

SOV/76-32-11-15/32

TITLE:

On Some Rules Governing the Discharge of Zinc and Hydrogen Ions From Sulfuric Solutions in the Presence of Metal Impurities More Electropositive Than Zinc (O nekotorykh zakonomernostyakh razryada ionov tsinka i vodoroda iz sernokisl'nykh rastvorov v prisutstvii primesey metallov, boleye elektropolozhitel'nykh chem tsink)

PERIODICAL:

Zhurnal fizicheskoy khimii, 1958, Vol 32, Nr 11, pp 2561-2564 (USSR)

ABSTRACT:

In the presence of copper, cobalt, antimony, nickel ions and other impurities the current yield of zinc sharply decreases in electrochemical zinc precipitations up to high current densities (Refs 1,2). To classify the influence of these impurities the model method (Ref 3) was employed. The cathode pairs Zn-Cu, Zn-Co, Zn-Sb and Zn-Pb were investigated. The potential curves were obtained from 2 N sulfuric solutions and zinc sulfate containing sulfuric solutions (Tables 1-4). The potential of the Zn cathode decreases in the presence of the above mentioned metal ions for two reasons: On the one

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SOV/76-32-11-15/32

- On Some Rules Governing the Discharge of Zinc and Hydrogen Ions From Sulfuric Solutions in the Presence of Metal Impurities More Electropositive Than Zinc

hand the potential of the impurities is lower than that of zinc, and on the other hand a considerable part of the current belongs to the metal impurities and thus decreases the current density on the zinc surface, by which fact the potential of the zinc cathode is displaced to the more positive side (with the exception of lead). The real surface of the zinc cathode represents a complex system of anodic and cathodic segments. At high current densities (0.1 Ampere/cm<sup>2</sup> and more) the cathodic segments (metal impurities) serve as active centers of the hydrogen separation. Since these centers, however, are covered with zinc, the electrocrystallization of zinc in these places takes place more rapidly, which fact causes the dendrite formation. There are 4 figures and 4 Soviet references.

ASSOCIATION: Akademiya nauk Kazakhskoy SSR, Institut khimicheskikh nauk, Alma-Ata (Academy of Sciences Kazakh SSR, Institute of Chemistry, Alma-Ata)

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## PHASE I BOOK EXPLOITATION SOV/2216

Sovetskaniye po elektrokhemii. 4th. Moscow, 1956.

Trudy... [isbornil] (Transactions of the Fourth Conference on Electrochemistry; Collection of Articles) Moscow, 1956. 120-vo AN SSSR, 1949. 868 p. Errata slip inserted. 2,500 copies printed. Sponsoring Agency: Akademiya nauk SSSR, Otdeleniye khimicheskikh nauk.

Editorial Board: A. M. Fromin (Resp. Ed.) Academician, O. A. Yasin, Professor, S. I. Zhdanov (Resp. Secretary), B. M. Kabanov, Professor, Ya. M. Kolotyrkin, Doctor of Chemical Sciences, V. V. Losev, Professor, L. M. Lobachev, Professor, Z. A. Solov'eva, Doctor of Chemical Sciences, and G. M. Florjanovich. Ed. of Publishing House: E. G. Yegorov, Tech. Ed.: T. A. Prusakov.

PURPOSE: This book is intended for chemical and electrical engineers, physicists, metallurgists and researchers interested in various aspects of electrochemistry.

COVERAGE: The book contains 127 of the 135 reports presented at the Fourth Conference on Electrochemistry sponsored by the Department of Chemical Sciences and the Institute of Physical Chemistry, Academy of Sciences, USSR. The collection pertains to different branches of electrochemical kinetics, double layer theories and solvated processes in metal electrodeposition and industrial electrochemistry. Abridged discussions are given at the end of each division. The majority of reports not included here have been published in periodical literature. No personalities are mentioned. References are given at the end of most of the articles.

Editorial Board: Institute of Physical Chemistry, Czechoslovak Academy of Sciences, Survey of the Latest Theoretical Work at the Prague Polarographic School

Editorial Board: M. V. and B. A. Dumas (Moscow State University), Influence of the Radius of "Macroground" Cathodes on the Reduction of Peroxide Anions at a Mercury Electrode

Editorial Board: Institute of Physical Chemistry, Polish Academy of Sciences

Editorial Board: The Influence of Structural Changes in RHO3 Molecules on the Course of Cathodic Polarization of a Platinum Electrode in Nitric Acid Solutions

Zhdanov, S. I., V. I. Zytov, and T. V. Kalish (Institute of Chemistry, Moscow State University)

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Electrochemistry and Physics, Dresden School for Advanced Technology; The Influence of Organic Solvents on Wave Height and Sealeave Potential of Organic Depositions

Zabotin, P. I., S. P. Budanov, and O. Z. Kir'yakov (Institute of Chemistry, Kazan State University, Kazan, USSR), Influence of the Position of Zero-Charge Points on the Reduction of Indium at a Mercury-Drop Electrode

Koryta, J. Polarographic Institute, Czechoslovakian Academy of Sciences

Academy of Sciences, Kinetics of the Separation of Cadmium from Cyanide Complexes at Dropping Mercury Electrodes and Streaming Mercury Electrodes

Shabegol', Sh. Z. (Tsentral'naya laboratoriya "Zavodstroymash", Dzerzhinsk), Reduction of a Chlorite Ion at a Dropping Mercury Cathode

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Shabegol', Sh. Z., O. Z. Kir'yakov, O. R. Zaslavskiy, S. A. Alkayev, and G. M. Florjanovich (Tsentral'naya laboratoriya "Zavodstroymash", Dzerzhinsk), High Current Densities During the Electrolytic Preparation of Zinc

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VAKHIDOV, R.S.; KIR'YAKOV, G.Z.

Corrosion of zinc in a sulfuric acid - zinc electrolyte containing  
manganese dioxide. Izv.AN Kazakh.SSR.Ser.khim. no.1:44-46 '59.  
(MIRA 13:6)

(Zinc--Corrosion)

(Manganese oxide)

(Sulfuric acid)

ZABOTIN, P.I.; KIR'YAKOV, G.Z.; TUROMSHINA, U.F.

Yield of chromium in relation to the current and pH of the  
electrolyte. Izv.AN Kazakh.SSR.Ser.khim. no.2:9-13 '59.  
(MIRA 12:8)

(Chromium)

KIR'YAKOV, G.Z.; VAKHIDOV, R.S.

Corrosion of zinc in a zinc sulfate electrolyte in the presence  
of permanganate ions. Izv.AN Kazakh.SSR.Ser.khim. no.2:14-17  
'59.

(MIRA 12:8)

(Zinc--Corrosion)

BUNDZHE, V.G.; KIR'YAKOV, G.Z.

Effect of certain surface-active substances on the corrosion  
of electrolytic zinc. Izv.AN Kazakh.SSR.Ser.khim. no.2:18-  
25 '59. (MIRA 12:8)

(Zinc--Corrosion)

RAZINA, N.F.; KIR'YAKOV, G.Z.

Lead-dioxide electrodes. Izv. AN Kazakh. SSR. Ser. khim. no. 2:26-  
31 '59. (MIRA 12:8)

(Electrodes, Oxide)



5(1,2)

AUTHORS:

Vakhidov, R. S., Kir'yakov, G. Z.

SOV/153-2-2-18/31

TITLE:

The Role of Manganese in the Electrodeposition of Zinc (O roli margantsa pri elektroosazhdenii tsinka)

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1959, Vol 2, Nr 2, pp 238 - 243 (USSR)

ABSTRACT:

Up to now no uniform opinion has been achieved regarding the rôle of manganese as mentioned in the title. The authors see the main reason for this in the fact that most investigations took place without a separation of the anodic and cathodic space. For this reason manganese compounds of various degrees of oxidation and in different quantitative relations were present in the electrolyte, all at the same time. This resulted from the conditions and from the kind of the electrolytic procedure. Other admixtures are also apt to impair the character of manganese. In the present article the authors had the aim of explaining the effect of the different valence states of manganese on the zinc separation, conditioned by the current, as well as by the effect on the quality of the cathodic zinc sediment in the pure, so-called "standard" electrolytes at different current densities and temperatures. Figure 1 shows the dependence of the zinc separation and of the cathode potential upon

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The Role of Manganese in the Electrodeposition of Zinc

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the  $Mn^{2+}$  concentration. Figure 2 illustrates the same in its dependence upon the  $MnO_2$  content in the electrolyte. The same is shown in figure 4 in its dependence upon  $KMnO_4$ . Figure 5 gives the dependence of the potential of a zinc cathode upon the  $KMnO_4$  content in the electrolyte. Figure 6 shows the influence of the temperature on the zinc separation, conditioned by the current in the presence of different  $KMnO_4$  amounts. On the basis of the results obtained, the authors draw the following conclusions: 1. Manganese may be present in a zinc electrolyte as bivalent ions, as dioxide and as permanganate ions. 2. Even in large quantities, ions of bivalent manganese have only little effect on the zinc separation, reducing it slightly. 3. In quantities of 1 to 3g/l, manganese dioxide considerably reduces the zinc separation, but improves the quality of the zinc sediment (Fig 3). 4. Permanganate ions have the worst influence. At high temperatures and low current densities, the zinc separation is reduced by dozens of percents, or even down to nil in the presence of permanganate. In our case the quality of the sediment is influenced by manganese dioxide. There are 6 figures

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The Role of Manganese in the Electrodeposition of Zinc

SOV/153-2-2-18/51

and 26 references, 24 of which are Soviet.

ASSOCIATION:

Institut khimicheskikh nauk AN KazSSR (Institute of Chemical Sciences of the AS Kazakh SSR)

SUBMITTED:

January 27, 1958

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VAKHIDOV, R.S.; KIR'YAKOV, G.Z.

Influence of manganese compounds on the electrodeposition of zinc  
in the presence of other impurities. Izv. AN Kazakh. SSR Ser.  
khim. no. 2:50-60 '60. (MIRA 14:5)  
(Zinc plating)

KIR'YAKOV, G.Z.; RAZINA, N.F.; DUNAYEV, Yu.D.

Insoluble anodes based on lead. Trudy Inst.khim.nauk AN Kazakh.  
SSR 6:3-53 '60. (MIRA 14:4)

(Electrodes, Lead)

DUNAYEV, Yu.D.; KIR'YAKOV, G.Z.

Distribution of potential and current in the pores of an anode  
based on lead during its polarization in sulfuric acid solutions.  
Trudy Inst.khim.nauk AN Kazakh.SSR 6:67-85 '60. (MIRA 14:4)  
(Electrodes, Lead) (Electrochemistry)

KIR'YAKOV, G.Z.; BAYNIYETOVA, F.K.

Electrolysis of sulfate solutions of zinc. Trudy Inst.khim.nauk  
AN Kazakh.SSR 6:86-93 '60. (MIRA 14:4)  
(Zinc-Electrometallurgy)

VAKHIDOV, R.S.; KIR'YAKOV, G.Z.

Role played by manganese in the electrodeposition of zinc.  
Trudy Inst.khim.nauk AN Kazakh.SSR 6:94-104 '60. (MIRA 14:4)  
(Zinc plating) (Manganese)



BUNDZHE, V.G.; KIR'YAKOV, G.Z.

Effect of the addition of surface active agents on the zinc potential  
in the processes of corrosion and electrolysis. Trudy Inst.khim.  
nauk AN Kazakh SSR 6:105-114 '60. (MIRA 14:4)  
(Surface active agents) (Electrolytic corrosion)  
(Zinc)

S/080/60/033/010/010/029  
D216/D106

AUTHORS: Stender, V.V., Kiriyakov, G.Z., and Vakhidov, R.S.

TITLE: The effect of manganese on the electrodeposition  
of zinc

PERIODICAL: Zhurnal prikladnoy khimii, v. 33, no. 10, 1960,  
2236 - 2245

TEXT: In existing processes for producing zinc electrolytically where the c.d. does exceed  $600 \text{ A/M}^2$ , compounds of the higher oxides of manganese have little effect on the cathode. Much work is being done on electrolysis of  $\text{ZnSO}_4$  solutions at very high c.d.s.

This demands a high solution feed rate, and causes increased gassing of the cathode with consequent agitation of the electrolyte. It had already been found that Mn causes lower cathode current efficiencies, while the presence of permanganates causes depolarization at the cathode. The limiting concentration of Mn is 3 gr./l;

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The effect of manganese on ...

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D216/D306

if it is higher, it produces a considerable reduction in current efficiency. The following processes are shown graphically in the article: The corrosion rate in gr./M<sup>2</sup>-hr. plotted against the MnO<sub>2</sub> content of the electrolyte (gr./l) at 3 given temperatures; The corrosion rate of Zn in gr./M<sup>2</sup>-hr. plotted against KMnO<sub>4</sub> concentration at various temperatures: It is pointed out that the action of Mn compounds on the corrosion of Zn is determined by their surface activity and oxidizing properties. MnO<sub>2</sub> particles are absorbed on the surface of the zinc and react with Zn atoms to form unphased layers of the type ZnO<sub>ads</sub>. The complex sorption layer both protects the Zn from solution in the acid and slows down the reaction of Zn with MnO<sub>4</sub><sup>-</sup> ions. Further shown are the relation of the current efficiency of Zn cathodes, and the cathode potential to Mn<sup>++</sup> concentration in the electrolyte; the relation of current efficiency of Zn to MnO<sub>2</sub> content of the electrolyte; the current efficiency with MnO<sub>2</sub> present in the electrolyte together with Sb

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Effect of manganese on ...

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0.1 mg/l.), Cu(0.5 mg/l), iron oxide (10 mg/l), Co(9 mg/l),  $\text{MnO}$  (1 mg/l), Na(2 gm/l), Cl (50 mg/l), Pb (bivalent saturated). On adding  $\text{MnO}_2$  to the electrolyte the reduction of cathode efficiency is not significant up to 10 mg/l, then changes very little. This is associated with absorption of  $\text{MnO}_2$  on the zinc. The complex layer protects the Zn cathode from other impurities. It is concluded that the corrosion rate of zinc in standard zinc electrolyte is slowed down by the presence of 0.1 gm/l  $\text{MnO}_2$ ; the presence of potassium permanganate encourages the corrosion of zinc in the standard electrolyte; manganous salts up to 20 gm/l have practically no effect on the electrodeposition of zinc; manganese dioxide in small amounts (less than 5 gm/l) has a beneficial effect; when other impurities are present (Sb, Cu, Ni, Pb, etc.),  $\text{MnO}_2$  in larger amounts lowers the current efficiency (by 4 - 5 %), but as a surface-active agent improves the quality of the zinc deposit;  $\text{MnO}_4^-$  ions are the most harmful in zinc electrodeposition. At high temperatures

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The effect of manganese on ...

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D216/D306

and low acid, the current efficiency falls considerably in the presence of  $\text{KMnO}_4$ , but  $\text{KMnO}_4$  in small amounts (0.3 - 0.5 g/l) lowers the negative effect of impurity metal ions; it is hardly possible to exclude manganese compounds from hydrometallurgical processes. In the electrolytic bath Mn compounds do not occur in critical quantities to cause harmful effects in the electrodeposition; the product is manganese dioxide which settles to the bottom of the bath as oxides. There are 8 figures and 48 references: 42 Sov. and 6 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: A.L. Marshall, Trans. Faraday Soc., 21, 297, 1925-26; D.E. Liddell, Handbook of Non-ferrous Metallurgy, N.Y. Soc. Ed., 1948; V.C. King and H.E. McKenney, Canad. J. Chem., 37, 205, 1959; R.C. Rooney, Analyst., 61, 619, 1957.

SUBMITTED: March 24, 1960

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S/137/62/000/001/204/237  
A154/A101

AUTHORS: Razina, N. P., Zabotin, P. I., Kir'yakov, G. Z.

TITLE: The effect of certain additives on the buffer properties of tri-valent chromium

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 1, 1962, 91, abstract 11643 ("KazSSR Olym Akad. khabarlary, Izv. AS KazSSR. Ser. khim.", 1961, no. 1[19], 40-46, Kazakh summary)

TEXT: Pure salts of  $\text{Cr}^{3+}$  (sulfates and especially chlorides) have a very low buffer capacity when  $\text{pH} = 2-3$ , and an even lower buffer capacity when  $\text{pH} = 3-4$ . Additions of  $\text{NH}_4\text{Cl}$  and  $(\text{NH}_4)_2\text{SO}_4$  increase the buffer capacity of the solution scarcely or not at all. The buffer capacity of sulfuric-acid and hydrochloric-acid solutions of  $\text{Cr}^{3+}$  can be raised several times by the introduction of buffers in an amount of 2-3 moles/l. Solutions changing color when the buffer is added to them have a particularly high buffer capacity, probably as a result of complex formation. There are 10 references.

[Abstracter's note: Complete translation]

Ye. Layner

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S/081/62/000/002/064/107  
B156/B101

AUTHORS: Vakhidov, R. S., Kir'yakov, G. Z.

TITLE: Is manganese necessary in hydrometallurgical methods of producing zinc?

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 2, 1962, 368, abstract 2K139 (Metallurg. i khim. prom-st' Kazakhstana. Nauchno-tekhn. sb., no. 1(11), 1961, 56-58)

TEXT: The transformations of Mn taking place during electrolysis, and the effects of Mn compounds on the processes taking place at the cathode during the electrolytic precipitation of Zn from a solution of the following composition (Zn 60,  $H_2SO_4$  100 g/l) are examined; temperature 20-70°C,  $J_{cathode}$  100-10,000  $a/m^2$ . It is pointed out that it is hardly advisable to exclude Mn compounds entirely from methods of producing Zn, since  $MnO_2$  has a good effect on the electrolytic precipitation of Zn; in electrolysis, however, the concentration of  $MnO_4^-$ , which is the compound exerting the worst effects on electrolysis, must be small. 9 references. [Abstracter's note: Complete translation.]

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S/137/62/000/003/057/191  
A006/A101

AUTHORS: Zabotin, P. I., Razina, N. F., Kir'yakov, G. Z.

TITLE: Polarographic investigation of the effect of the medium on pH of chromium hydroxyde deposition

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 3, 1962, 31 - 32, abstract 3G213 ("Izv. AN KazSSR, Ser. khim". 1961, no. 1 (19), 32 - 39, Kaz. summary)

TEXT: The polarographic method was used to study pH of  $\text{Cr}(\text{OH})_3$  formation in  $\text{Cr}_2(\text{SO}_4)_3$  solutions with  $3.8 \cdot 10^{-3}$  M Cr-concentration in the presence of 0.1 M  $\text{Na}_2\text{SO}_4$ , 0.2 M  $(\text{NH}_4)_2\text{SO}_4$  and a series of buffer admixtures. The authors revealed the effect of these admixtures upon the reduction of  $\text{Cr}^{3+}$  on the Hg-electrode. They showed the increase in pH of  $\text{Cr}(\text{OH})_3$  deposition in the presence of  $(\text{NH}_4)_2\text{SO}_4$ , urea, and semicarbazide, as compared to  $\text{Na}_2\text{SO}_4$  solution. Stable complex  $\text{Cr}^{3+}$  compounds are formed with citric and tartaric acids; such compounds do not form Cr-hydroxides at any pH values of the solution and are not reduced on the Hg-electrode at pH > 2.5 - 3.5. There are 24 references.

[Abstracter's note: Complete translation]

Ye. Layner

Card 1/1



SHELUDYAKOV, L.N.; KIR'YAKOV, G.Z.; LYUBIMOVA, L.S. [deceased]

Solubility of copper in cast iron saturated with carbon. Izv.AN  
Kazakh. SSR. Ser.khim. no.1:60-62 '61. (MIRA 16:7)  
(Iron-carbon-copper alloys)

BAYNIYETOVA, F.K.; KIR'YAKOV, O.Z.

Simultaneous discharge of zinc and hydrogen ions in sulfuric acid  
solutions. Zhur.prikl.khim. 35 no.4:903-905 Ap '62.  
(MIRA 15:4)

(Zinc) (Sulfuric acid) (Electromotive force)

BUNDZHE, V.G.; KIR'YAKOV, G.Z.

Effect of some surface-active addition agents on electrode  
processes under conditions of inhomogeneity of a zinc cathode  
surface. Trudy Inst. khim. nauk AN Kazakh. SSR 9:3-17 '62.  
(MIRA 16:6)

(Electrodes, Zinc)  
(Surface-active agents)

S/850/62/009/000/001/012  
B117/B186

AUTHORS: Dunayev, Yu. D., Kir'yakov, G. Z., Chernysheva, Z. N.  
TITLE: Inhomogeneity of the surface and electrode processes on porous lead anode  
SOURCE: Akademiya nauk Kazakhskoy SSR. Institut khimicheskikh nauk. Trudy. v. 9. Alma-Ata, 1962. Elektrokhimiya rastvorov i metallicheskh sistem, 18-41

TEXT: The laws governing the distribution of processes whose sequence and rate depends on the change in potential along the pores were studied. As regards the reactions producing oxygen, lead dioxide, and lead sulfate, equations were derived for the distribution of potential and current in the pores according to their diameter, for the conductivity of electrolyte and for the current density. At high polarization, oxygen was shown to form also over a comparatively short pore section. In the potential region, this section, whose length remains practically constant at sufficiently long polarization time, is above +1.760 v. The velocity of the process can be expressed with sufficient accuracy by the Tafel equation.

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S/850/62/009/000/001/012

B117/B186

Inhomogeneity of the surface and ...

The formation of lead dioxide, during which the potential is slightly shifted from its equilibrium value, takes place in a section at some distance from the pore opening, this section being bounded by the zone of lead sulfate formation and its length increasing with time. The sulfate formation begins in the region of potential change, in which the density of available current is commensurable with the exchange current for  $\text{Pb} \rightleftharpoons \text{Pb}^{++}$ . The process  $\text{Pb} \rightleftharpoons \text{PbSO}_4$  was found to take place in a tube of finite length in the region of positive potentials (far away from  $\varphi = -0.299 \text{ v}$ ). This region is determined by the exponential distribution theorem for the current density along the tube. Experimental and theoretical data are in good agreement. A pore model (consisting of a tube with exchangeable units) was used for studying the effect of alloying additives on the current distribution and on the increase in anode stability: additives that redistribute the current on microsections under the protective layer and whose ions affect the structure and strength of the  $\text{PbO}_2$  film as well as the kinetics and mechanism of oxygen formation (e.g. silver) are especially effective in metal-ceramic compounds; additives whose action depends on structural changes of the alloy (e.g. thallium) are most

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Inhomogeneity of the surface and ...

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B117/B186

effective in cast electrodes (solid solutions). The effect of metal ions which increase the stability of Pb sets in at a current density of more than  $10^{-4}$  a/cm<sup>2</sup>, i.e. in the potential region of the formation of highly oxidized compounds. The formation of the PbO<sub>2</sub> film is replaced partly by the formation and continuous regeneration of a phase layer of easily decomposing metal oxides. The overpotential of oxygen is reduced. There are 11 figures and 1 table.

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S/850/62/009/000/002/012  
B117/B186

AUTHORS: Zabotin, P. I., Razina, N. F., Kir'yakov, G. Z.  
TITLE: Stability of bivalent chromium in aqueous solutions  
SOURCE: Akademiya nauk Kazakhskoy SSR. Institut khimicheskikh nauk.  
Trudy. v. 9. Alma-Ata, 1962. Elektrokhimiya rastvorov i  
metallicheskikh sistem, 42-48

TEXT: The effect of some factors on the oxidation of  $\text{Cr}^{2+}$  in hydrogen medium at 48-50°C was studied on the basis of experimental data published.  $\text{Cr}^{2+}$  was shown to oxidize but slowly without catalyst, as the reaction which takes place together with the formation of molecular hydrogen, is difficult to bring about. It takes place at an average rate of  $4 \cdot 10^{-3}$  moles per 24 hrs and is not accelerated either by additional amounts of  $(\text{NH}_4)_2\text{SO}_4$ ,  $\text{NH}_4\text{Cl}$ , or  $\text{NaCl}$  or by an increase in pH by  $\text{H}_2\text{SO}_4$  or  $\text{HCl}$ . This is due to strong polymerization accompanying the oxidation and also to the reduction of  $\text{Cr}^{3+}$  in  $\text{Cr}^{2+}$ .  $(\text{NH}_4)_2\text{SO}_4$ , however, has a noticeable effect

Card 1/2

Stability of bivalent chromium ...

B117/B186

on the rate of  $\text{Cr}^{2+}$  oxidation in solutions of sulfuric acid by atmospheric oxygen. Metals with the lowest overpotential of hydrogen (except for Pt, Pd, and Ag) are the most effective catalysts.

accelerating  $\text{Cr}^{2+}$  oxidation. Oxidation of  $\text{Cr}^{2+}$  on metal surfaces is facilitated, as it can take place as a reaction of lower order. Apart from that, conjugated reactions on metal surfaces without catalyst usually occur at different places. There are 1 figure and 4 tables.

Card 2/2

S/850/62/009/000/003/012  
B117/B186

AUTHORS: Zabotin, P. I., Razina, N. F., Kir'yakov, G. Z.  
TITLE: Oxidation of trivalent chromium on lead anode  
SOURCE: Akademiya nauk Kazakhskoy SSR. Institut khimicheskikh nauk.  
Trudy. v. 9. Alma-Ata, 1962. Elektrokhiimiya rastvorov i  
metallicheskikh sistem, 49-54

TEXT: The effect of current density and some other factors on the oxidation of Cr III - Cr VI was studied. A 100% yield in Cr VI was shown to be possible only at very low current densities (30 - 100 a/m<sup>2</sup>). The current yield of Cr VI is reduced considerably by an increase in current density, irrespectively of the ratio Cr III : Cr VI. An addition of Fe III which is hardly effective, reduces the current yield of Cr VI slightly, and shifts the anode potential toward negative values. The dependence of the current yield on the current density and on the degree of Cr III oxidation was analyzed by plotting partial polarization curves for the oxidation of Cr III and oxygen formation: One of the causes of this dependence lies in the low values of maximum current density

Card 1/2



Oxidation of trivalent chromium ...

S/850/62/009/000/003/012  
B117/B186

(characteristic of anodic Cr III oxidation) at comparatively high concentrations of discharging ions. Polarization increases very much with the current density. This was indicated by the very steep rise of the partial polarization curve for Cr III oxidation ( $\sim 0.250$  as compared to  $0.065$  in oxygen formation). The specifically high polarization of Cr III oxidation was assumed to have two causes: (1) Cr III cations hardly reach the positive anode surface; (2) Cr VI anions firmly adsorbed on the anode, are difficult to remove. Therefore, these factors naturally depend on the charge of anode surface. Owing to its larger surface, lead oxide is better suited for the oxidation of Cr III - Cr VI than platinum. Pb + 1% Ag or Co addition into the anode space are not to be recommended, as Cr II oxidation is decelerated owing to the depolarization of oxygen formation. There are 3 figures and 1 table.

Card 2/2

KIR'YAKOV, G.Z.

Electrodeposition of zinc on cathodes made of various metals. Zhur.-  
prikl.khim. 35 no.12:2661-2666 D '62, (MIRA 16:5)  
(Zinc plating)

KIR'YAKOV, Gleb Zakharovich; PONOMAREV, V.D., akademik, retsenzent;  
SONGINA, O.A., doktor khim. nauk, retsenzent; KABANOV,  
B.N., doktor khim. nauk, retsenzent; KUSHNIKOV, Yu.A.,  
kand. khim. nauk, retsenzent; ILYUSHCHENKO, V.M., kand.  
khim. nauk, retsenzent; KOZIN, L.F., kand. khim. nauk,  
otv. red.; IVANOVA, E.I., red.

[Electrode processes in sulfuric acid solutions of zinc]  
Elektrodneye protsessy v sernokislykh rastvorakh tsinka.  
Alma-Ata, Nauka, 1964. 186 p. (MIRA 17:12)

1. Akademiya nauk Kaz.SSR (for Ponomarev).

KHONINA, L.L.; KIR'YAEV, G.I.

Effect of certain impurities and admixtures on the potential of  
a cadmium cathode. Trudy Inst. khim. nauk AN Kazakh SSR 12:3-12  
'64. (MIRA 18:2)

BUNDZHE, V.G.; KIR'YAKOV, G.Z.

Electrolysis of cadmium in sulfate solutions in the presence of  
zinc ions and surface-active substances. Trudy Inst. khim. nauk  
AN Kazakh.SSR 12:13-17 '64. (MIRA 18:2)

BUNDZHE, V.G.; KIR'YAKOV, G.Z.; BAYNIYETOVA, F.K.

Effect of titanium sulfate on the electrodeposition of zinc  
from sulfate solutions. Trudy Inst. khim. nauk Akad. Nauk Kazakh.SSR  
12:18-25 '64. (MIRA 18:2)

VASIL'YEVA, Ye.I.; ZABOTIN, P.I.; KIR'YAKOV, G.Z.

Effect of the composition of a solution on the electrolytic  
reduction of chromium ions; polarographic study. Trudy Inst.  
khim. nauk AN Kazakh.SSR 12:57-68 '64.

(MIRA 18:2)

RAZINA, N.F.; ZABOTIN, P.I.; KIR'YAKOV, G.Z.

Effect of the permeability of diaphragms on chromium electrodeposition from sulfate solutions. Trudy Inst. khim. nauk AN Kazakh. SSR 12:69-77 '64. (MIRA 18:2)



DUNAYEV, Yu.D.; KIR'YAKOV, G.Z.

Macromodeling of a pore as a method of studying porous electro-  
chemical systems. Trudy Inst. khim. nauk AN Kazakh.SSR 12:137-  
156 '64. (MIRA 18:2)

KIRYAKOV, H. [Kiriakov, Kh.];

Iodometric method for quantitative determination of streptomycin. Doklady BAN 16 no. 4: 385-387 '63.

1. Submitted by Corresponding Member B. Kourtev [Kurtev, B.].

KIRYAKOV, H.

Iodometric method for quantitative determination of streptomycin. Dokl. Bolg. akad. nauk 16 no.4:385-387 '63.

1. Submitted by Corresponding Member B. Kourtev.  
(STREPTOMYCIN) (CHEMISTRY, ANALYTICAL)

KIRYAKOV, H. [Kiriakov, Kh.]

New qualitative reaction for streptomycin. Doklady BAN 16  
no.1:43-44 '63.

1. Submitted by Corresponding Member B. Kourtev [Kurtev, B.]

L 33507-66

ACC NR: AP6023498

SOURCE CODE: BU/0016/65/000/007/0405/0408

AUTHOR: Kiryakov, I.; Bonev, A.; Spirov, G.

ORG: Institute for Scientific Research in Dermatology and Venereology/headed by Prof. P. Popkristov/ (Nachroizsledovatel'ski kozhno-venerologichen institut)

TITLE: Some aspects of the epidemiology of lues

SOURCE: Suvremenna meditsina, no. 7, 1965, 405-408

TOPIC TAGS: epidemiology, nervous system disease, genitourinary system disease, infective disease, man

ABSTRACT: In one group, up to 65% of male syphilitic patients had contracted the infection during homosexual relationships; analysis of 154 homosexual men: ages (80 were below 25 years old) 69 'true' and 85 'occasional' or 'opportunistic' homosexuals; lues was diagnosed in 57 (37%) mostly with 'atypical' (i.e. anal, etc.) lesions. [Based on authors' Eng. abst.] [JPRS]

SUB CODE: 06 / SUBM DATE: 00Mar65 / ORIG REF: 002 / OTH REF: 015

Card 1/1

SPIROV, G.; BONEV, As. KIRYAKOV, Iv.

Current problems of urogenital trichomoniasis. Suvr. med. 16 no.11:  
690-700 '65.

1. Nauchno-izsledovatel'ski koshno-venerologichen institut  
(direktor - prof. P. Popkhristov).

KIRYAKOV, IV,

PETKOV, Il.

Bulgaria

No degree listed

Department of Skin and Venereal Diseases of the  
Higher Medical Institute (Vishh Meditsinski Inst-  
itut), Sofia; Department Head: Prof L. POPOV  
Scientific Research Skin-Venerological Institute  
(Nauchno-issledovatel'skiya Kozhno-venerologichen  
Institut), Sofia; Director: Prof P. POPKHEISTOV.

Sofia, Dermatologiya i Venerologiya, supplement of  
Suvremenna Meditsina, No 1, 1962, pp 12-16.

"The Treatment of Severe Alopecias with Hormonal and  
Neuroplegic Drugs"

Co-authors:

BOTEV, Sht., Department of Skin and Venereal Diseases  
of the Higher Medical Institute, Sofia; Scientific  
Research Skin-Venerological Institute, Sofia.

1/2

PETKOV - Continued

Co-authors:

KAPNILOV, St., Department of Skin and Venereal Diseases  
of the Higher Medical Institute, Sofia; Scientific Re-  
search Skin-Venerological Institute, Sofia.  
PEKHLIVANOV, P., Department of Skin and Venereal Diseases  
of the Higher Medical Institute, Sofia; Scientific Re-  
search Skin-Venerological Institute, Sofia.  
KIRYAKOV, Iv., Department of Skin and Venereal Diseases  
of the Higher Medical Institute, Sofia; Scientific Re-  
search Skin-Venerological Institute, Sofia.

2/2



BULGARIA

GEORGIEV, Iv., ~~KIRYAKOV, Kr.~~ KOSTOV, N., MOLKHOV, Zh., PETROV, P.,  
IVANCHEV, V., POPOV, St., and VASILEV, Khr.

"Occupational Diseases of the Nervous System and Neurological  
Medical Aid at Enterprises"

Sofia, Nevrologiya, Psikhiatriya i Nevrokhirurgiya, Vol 5, No 1,  
1966, pp 1-11

Abstract: It is brought out that the frequency and gravity of occupational diseases of the peripheral and central nervous system and of psychoneuroses with an occupational background increased in Bulgaria during 1953-1962. This is explained by the accelerated rate of economic development. Statistics of relative severity and of the average number of days lost according to occupations are presented. Conditions arising as a result of exposure to noise and vibrations are discussed. With respect to neurointoxications, the increase of their incidence among agricultural workers, particularly in connection with the use of organophosphorus compounds, is pointed out. The danger presented by radiation sickness to radiologists, engineers using X-rays in work on metals, persons occupied at the nuclear center, etc., is mentioned. Organization of a more effective neurological medical service at industrial enterprises is proposed. Graphs, 58 references (all Bulgarian). Manuscript received Sep 65.

1/1

STAKOV, Kr.

Some electroencephalographic criteria of fatigue following  
mental work. Zhurn. Vys. nerv. deiat. 12:3-412 1964, 17:11,  
(MIR 17.11,

1. Trnava at Medical Institute, Sofia, Bulgaria.

KIRYAKOV, K.; VASILEVA, M. (Bolgariya)

Physiological characteristics of the work of telephone operators.  
Gig. truda i prof. zab. no.3:54 '62. (MIRA 15:4)

(~~TELEPHONE~~-EMPLOYEES)

*Kirya Kov, K. R.*

BULGARIA/Safety Engineering. Sanitary Engineering. Sanita- L  
tion.

Abs Jour: Ref Zhur-Khimiya, No 3, 1957, 10688

Author : Aleksieva, T. S. and Kiryakov, K. R.

Inst : Not given

Title : On the Reaction to Lead of Painters Working with Red  
Lead

Orig Pub: Suvrem. med., 1956, Vol 7, No 4, 61-66 (in Bulgarian)

Abstract: Case studies on 164 workers in railroad maintenance shops working with red lead and ranging in age from 20 to 60 years with service periods of up to 20 years have shown symptoms of nervous disorders in 37.6% of the cases (of that number two-thirds are workers with service periods exceeding ten years). The initial stages of lead poisoning were observed in 15% of the cases. Chronic poisoning was observed in 1% of the cases (service periods exceeding 20 years). The authors recommend the substitution of iron oxides for lead oxides in paint formulations,

Card 1/2

BULGARIA/Safety Engineering. Sanitary Engineering. Sanita- L  
tion.

Abs Jour: Ref Zhur-Khimiya, No 3, 1957, 10688

Abstract: the organization of hot water showers, sanitary control inspections, the provision of lockers for the storage of work clothing, and the washing of the latter in a soda solution containing naphthalenesulfonic acid. The workers must be provided with canvas working gloves, the storage of food in the working areas must be forbidden, and prophylactic medical examinations must be given not less than once a year; the medical examinations must be carried out with the participation of a neuropathologist, a therapist, and a stomatologist, and regular laboratory blood analyses must be made. The authors attach great importance to the medicoprofessional selection of the workers and to sanitary instruction work.

Card 2/2

OYVIN, I.A.; KIR'YAKOV, M.A.; KOROLEVA, L.V.; ROMANOVSKAYA, L.L.;  
SVESHNIKOV, A.A.; TOKAREV, O.Yu.; UKLONSKAYA, L.I.

Radiometric study of problems of the pathogenesis and  
experimental therapy of inflammatory edemas. Vest. AMN  
SSSR 20 no.9:87-93 '65. (MIRA 18:11)

1. Institut meditsinskoy radiologii AMN SSSR, Obninsk.

DERKACHEVA, Z.N.; KIR'YAKOV, M.A.

Case of free autoplasty with a "sieve" skin graft. Ortop.  
travm.i protes. 21 no.2:62-63 F '60. (MIRA 13:12)  
(SKIN GRAFTING)

BABUSHKINA, M.D.; BABAYEV, Ye.V.; KIR'YAKOV, M.F.; KARASIK, K.K.;  
SHARAPOVA, Z.I.; KRAPIVIN, I.N.

Industrial bubble-cap column for the production of sulfite acid  
by the milk-of-lime method. Bum.prom. 34 no.6:12-15 Je '59.  
(MIRA 12:10)

1. Moskovskiy filial Tsentral'nogo nauchno-issledovatel'skogo instituta tsellyuloznoy i bumazhnoy promyshlennosti (for Babushkina, Babayev). 2. Sokol'skiy tsellyulozno-bumazhnyy kombinat (for Kir'yakov, Karasik, Sharapova). 3. Sukhonskiy tsellyulozno-bumazhnyy kombinat (for Krapivin).  
(Sulfite liquor) (Plate towers)



BABUSHKINA, M.D.; BABAYEV, Ye.V.; KIR'YAKOV, M.F.; KARASIK, S.S.;  
SHARAPOVA, Z.I.

Using unburnt crushed limestone to produce sulfite by the  
bubble column method. Bum.prom. 34 no.9:13-17 S '59.  
(MIRA 13:2)

1. Moskovskiy filial Tsentral'nogo nauchno-issledovatel'skogo  
instituta tsellyuloznoy i bumazhnoy promyshlennosti (for Babushkina,  
Babayev). 2. Sokol'skiy tsellyulozno-bumazhnyy kombinat (for  
Kir'yakov, Karasik, Sharapova).  
(Woodpulp) (Sulfur dioxide)

KIR YAKOV, O.D

ADRIANOV, P.K.; ANDRIANOV, S.M.; BEREZIKOV, B.S.; GOLOVKO, V.G. [Holovko, V.H.]; DOBROVOL'SKIY, A.V. [Doborovol's'kiy, A.V.]; DOVGAL', M.F. [Dovgal', M.F.]; YELIZAROV, V.D. [Ielizarov, V.D.]; ZHIZDRINSKIY, V.M. [Zhyzdryns'kiy, V.M.]; ZVENIGORODSKIY, O.M. [Zvenigorods'kiy, O.M.]; ZAYCHENKO, R.M. [Zaichenko, R.M.]; IVANENKO, Ye.I. [Ivanenko, I.I.]; KOMAR, A.M.; KOS'YANOV, O.M.; KAZAKOV, O.I.; KOSENKO, S.K.; KLIM'ENKO, T.A.; ~~KIR'YANOV, O.D.~~; KALISHUK, O.L.; LELICHENKO, M.T.; LEBEDICH, M.V.; MIKHAYLOV, V.O. [Mykhailov, V.O.]; MOROZ, I.I.; MOSHCHIL', V.Yu. [Moshchil', V.IU.]; NEPOROZHNIY, P.S. [Neporoshnii, P.S.]; NEZDATNIY, S.M. [Nezdatnyi, S.M.]; NOVIKOV, V.I.; POLEVOY, S.K. [Polevoi, S.K.]; PEREKHREST, M.S.; PUZIK, O.Ye. [Puzik, O.E.]; RADIN, K.S.; SLIVINSKIY, O.I. [Slivins'kiy, O.I.]; STANISLAVSKIY, A.I. [Stanislavs'kiy, A.I.]; USPENSKIY, V.P. [Uspens'kiy, V.P.]; KHORKHOT, O.Ya.; KHILYUK, P.P.; TSAPENKO, M.P.; SHVETS, V.I.; MAL'CHEVSKIY, V. [Mal'chevs'kiy, V.], red.; ZELENIKOVA, Ye. [Zelenkova, E.], tekhn.red.

[The Ukraine builds] Ukraina buduie. Kyiv, Derzh.vyd-vo lit-ry z budivnytstva i arkhitekt., 1957. 221 p. (MIRA 11:5)  
(Ukraine--Construction industry)

KIRYAKOV, P.

"How the IZIKRB (Amateur Radio Station) at the City of Burgas Appeared  
in the Ether. "RADIO" Ministry of Communication, #9:15: Sept 55

KIPYAYOV, P.

County Exhibition at the City of Stalin. "RADIO" Ministry of Communication,  
49:16: Sept 55

NECHAYASHCHIK, S.I. (Moskva); KIR'YANOV, V.I. (Moskva)

Device for hanging maps, posters and illustrations with  
the help of permanent magnets. Biol. v shkole no.6:78-79  
N-D '61. (MIRA 14:11)

(Schools--Furniture, equipment, etc.)

ACCESSION NR: AT4012863

S/3069/63/000/000/0099/0110

AUTHOR: Kushnerev, D. M.; Kir'yakov, V. M.

TITLE: Investigation of the effect of alloying elements on the properties of high-manganese austenitic weld metal

SOURCE: Svarka spetsial'ny\*kh metallov i splavov. Kiev, Izd-vo AN UkrSSR, 1963, 99-110

TOPIC TAGS: welding, austenitic steel, weld metal, manganese steel alloying element, nickel, manganese, steel welding, alloy steel

ABSTRACT: Lately, the welding of high-strength medium-alloy steel is acquiring increasing importance, but still presents severe difficulties (crack formation) due to the high content of C and alloying elements. Austenitic Cr-Ni steel is commonly used as the weld metal. However, due to the high cost of Ni, it would be advantageous to replace this with a nickel-free high-manganese weld metal which would still have an austenitic structure. In addition, ceramic fluxes are used to prevent oxidation and introduce modifying elements into the weld. The present authors studied the structure and mechanical properties of welds made with Sv-08 electrode wire, the composition of the weld metal being modified via the flux. As shown in Fig. 1 of the Enclosure, the optimal Mn content

Card

ACCESSION NR: AT4012863

in the weld metal was 27-30%. The addition of modifying elements such as Ti, Al, Si, V, Mb and Cr was also found to improve the structure and mechanical properties; in particular, a high Cr content together with Al and Ti guaranteed high resistance to crack formation. X-ray analysis of the weld metal structure confirmed the results of mechanical tests and showed that the austenitic structure was only preserved with a Mn content within the limits of 25-34%. Orig. art. has: 1 table and 8 figures.

ASSOCIATION: None

SUBMITTED: 00

DATE ACQ: 13Feb64

ENCL: 01

SUB CODE: MM

NO REF SOV: 004

OTHER: 003

2/3

Card

3/3

Card

ACC NR: AP6032533

SOURCE CODE: UR/0413/66/000/017/0133/0133

INVENTOR: Kushnerev, D. M.; Svetsinskiy, V. G.; Kir'yakov, V. M.; Kuznetsov, V. I.; Polikarpov, B. S.

ORG: none

TITLE: Ceramic flux for submerged arc welding of high-strength steels. Class 49, No. 185676 [announced by the Electric Welding Institute im. Ye. O. Paton, AN UkrSSR (Institut elektrosvarki AN UkrSSR)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 17, 1966, 133

TOPIC TAGS: automatic welding, high strength steel welding, *ARC WELDING*, *CERAMIC MATERIAL*

ABSTRACT: This Author Certificate introduces a ceramic flux for submerged arc welding of high-strength steels containing calcium fluoride, rutile concentrate, ferrotitanium, and ferromanganese. To improve the mechanical properties of welded joints and the technological properties of the flux, 5—12% quartz sand, 3—6% manganese ore, 4—6% manganese metal, 1% aluminum powder, and 18—24% sodium disilicate are added to the flux composition. The rest of the components are taken in the following proportion: 10—18% fluor spar, 30—40% rutile concentrate, 0—2% ferrotitanium and 3—5% ferro manganese.

SUB CODE: 13/ SUBM DATE: 23Jan65/

Card 1/1

UDC: 621.791.048



AKSEL'ROD, S., zaslushenny master sporta; KIR'YAKOV, Yu.

Callisthenics in industry. Okh.truda i sots.strakh. no.1:54-55  
Ja '60. (MIRA 13:5)  
(Callisthenics) (Industrial hygiene)

KIR'YAKOV, Yu.M. (Mytishchi, Moskovskaya oblast').

International conference on plant protection. Priroda 46 no.1:112  
Ja '57. (MLRA 10:2)

(London--Plants, Protection of--Congresses)

GUK, H.I.[Huk, M.I.], POLOVKO, I.K.,[Polovko, I.K.], PRIKHOT'KO, G.F.,  
[Prykhot'ko, H.F.],: KIR'YAKOV, Yu. F.,[Kir'yakov, IŮ. F.], red.:  
GORBUNOVA, H.M., tekhn. red.

[Climate of the Ukraine; a brief account] Klimat Ukraine'koi RSR;  
korotkyi narys. Kyiv, Derzh. uchbovo-pedagog. vyd-vo  
"Radiatsi'ka shkola," 1958. 69 p. (MIRA 11:11)  
(Ukraine--Climate)

BURDEYNYY, Petr Andreyevich [Burdeinyi, P.A.]; RUBIN, Mikhail Borisovich  
[Rubyn, M.B.]; KIR'YAKOV, Yu.F., red.; PIPA, L.D. [Pyra, L.D.],  
red. kart; GORBUNOVA, N.M. [Horbunova, N.M.], tekhn. red.

[Vinnitsa Province; geographical study] Vinnits'ka oblast';  
geografichnyi narys. Kyiv, Derzh. uchbovo-pedagog. vyd-vo  
"Radiants'ka shkola," 1961. 115 p. (MIRA 14:9)  
(Vinnitsa Province--Geography)

STROYEV, Konstantin Fedoseyevich; ~~KIRYANOV~~ Yu.F., red.; PIPA, L.D.,  
red. kart; GORBUNOVA, N.M. [Horbunova, N.M.], tekhn. red.

[Geography of the U.S.S.R.; textbook for the seventh and  
eighth grades of the eight-year school] Geografiia SSSR;  
pidruchnyk dlia 7-8 klasiv vos'myrichnoi shkoly. Kyiv,  
Derzh. uchbovo-pedagog. vyd-vo "Radians'ka shkola," 1961. 282 p.  
(MIRA 15:3)

(Geography)

LAPKO, Mikha'il Vladimirovich; RUFIN, Valentin Andreyevich; TVERDOKHLEBOV,  
Ivan Trofimovich [Tverdokhlebov, I.T.]; KIR'YAKOV, YU.F., red.;  
LEBEDEV, I.P. [Lebediev, I.P.], red.kart; GORBUNOVA, N.M.  
[Gorbunova, N.M.], tekhn. red.

[Crimean Province; geographical study] Kryms'ka oblast'; geo-  
grafichnyi narys. Kyiv, Derzh. uchbovo-pedagog. vyd-vo  
"Radiants'ka shkola," 1961. 138 p. (MIRA 15:4)  
(Crimea--Geography)

KRASNIKOV, Makar Filippovich; TREGUBA, Semen Grigor'yevich  
[Trehuba, S.H.]; KIR'YAKOV, Yu.F., red.; GORBUNCVA, N.M.  
[Horbunova, N.M.], tekhn. red.

[Kharkov Province; a geographical sketch]Kharkivs'ka oblast';  
geografichnyi narys. Kyiv, Radians'ka shkola, 1962. 101 p.  
(MIRA 16:1)

(Kharkov Province--Economic geography)

BOGATSKIY, A. V.; GORYACHUK, N. A.; TISHCHENKO, O. I.; KIR'YAKOVA, A. A.

Synthesis and transformations of alkyl-  $\alpha$ -alkoxyethylmalonic esters. Part 3: Synthesis and saponification of alkyl-  $\alpha$ -methoxyethylmalonic esters. Zhur. ob. khim. 33 no.1:42-45 '63. (MIRA 16:1)

1. Odesskiy gosudarstvennyy universitet.

(Malonic acid) (Saponification)



GORODETSKAYA, R.V.; KIR'YANOVA, A.M.

Chemical quality indices of raw leather. Kozh.obuv.prom. 4  
no.11:28-30. N '62. (MIRA 19:11)  
(leather--testing)

KIR'YAKOVA, A. N.

"Biology and Morphology of the Larvae of Fleas of the Genus *Ceratophyllus*."

Tenth Conference on Parasitological Problems and Diseases with Natural Reservoirs, 22-29 October 1959, Vol. II, Publishing House of Academy of Sciences, USSR, Moscow-Leningrad, 1959.

Zoological Institute, USSR Academy of Sciences, Leningrad

KIR'YAKOVA, A.N.

Larvae of fleas of the family Pulicidae. Report No.1: Exterior  
morphology of larvae of the cat flea *Gtenocephalides felis*  
Bouché, 1835. Paraz. sbor. 20:306-323 '61. (MIRA 14:9)

1. Zoologicheskii institut AN SSSR.  
(FLEAS) (LARVAE--INSECTS)

KIR'YAKOVA, A.N.

Larvae of fleas of the family Ctenophthalmidae. Report No.4.  
Zool. zhur. 43 no.4:572-580 '64. (MIRA 17:8)

1. Zoological Institute, Academy of Sciences of the U.S.S.R.,  
Leningrad and Rostov-on-Don Research Anti-Plague Institute.

KIR'YAKOVA, A.N.

Laboratory methods for studying the biology of flea reproduction  
(Aphaniptera). Ent. oboz. 40 no.2:443-447 '61. (MIRA 14:6)

1. Zoologicheskii institut AN SSSR.  
(Entomological research)  
(Fleas)

KIR'YAKOVA, A.N.

~~An instance of the feeding of flea larvae on adult fleas.~~  
Zool. zhur. 42 no.6:950 '63. (MIRA 16:7)

1. State Research Anti-Plague Institute of Rostov-on-Don.  
(Fleas) (Cannibalism(Animals))

AUTHOR: Kir'yakova, M.P.

SOV 77-3-4-1/23

TITLE: The Structure of the Absorption Spectrum of Thallous Chloride  
(O strukture spektra pogloshcheniya khloristogo talliya)

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, 1958,  
Vol 3, Nr 4, pp 241-245 (USSR)

ABSTRACT: Shishlovskiy, Vysochanskiy, Nikitin and Reys have demonstrated that a fine structure similar to that present in silver halogenides exists in the thallous chloride absorption spectrum. The author made a detailed study of the absorption spectrum to check this assumption. Thallous chloride was coated on quartz sheets by sublimation of the salt in a deep vacuum. The absorption spectrum was measured using: 1) an ISP-22 quartz spectrograph and a three-prism glass spectrograph, 2) an SF-4 spectrophotometer and 3) a double monochromator fitted with a photo-electric intensifier. After standard development, the spectrograms were measured with a point microphotometer at 40-60 Å intervals and then, for more detailed results, every 15-20 Å. From the blackening curves derived from the results, the absorption of the thallous chloride layer was worked out and set out in the form of absorption curves

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The Structure of the Absorption Spectrum of Thallous Chloride SOV 77-3-4-1/23

and tables. Some samples were treated with pure dry chlorine and others subjected to progressive heating. The absorption curves for these are also adduced. The natural absorption maximum is found at 2,450 Å. The fine structure found in the ultra-violet and visible portions of the absorption spectrum of the exposed thallous chloride is closely linked with the photochemical decomposition of the  $TlCl$  and points to a similarity in the photochemical processes of this and silver halogenides. The author thanks Professor Ye.A. Kirillov and Dotsent S.I. Golub for their help. There are 6 graphs, 1 table and 8 references 5 of which are Soviet, 2 German and 1 French.

ASSOCIATION: Odesskiy gosudarstvennyy universitet im. Mechnikova (Odessa State University imeni Mechnikov)

SUBMITTED: February 26, 1957

1. Thallium chlorides--Spectrographic analysis 2. Spectrophotometers  
--Applications

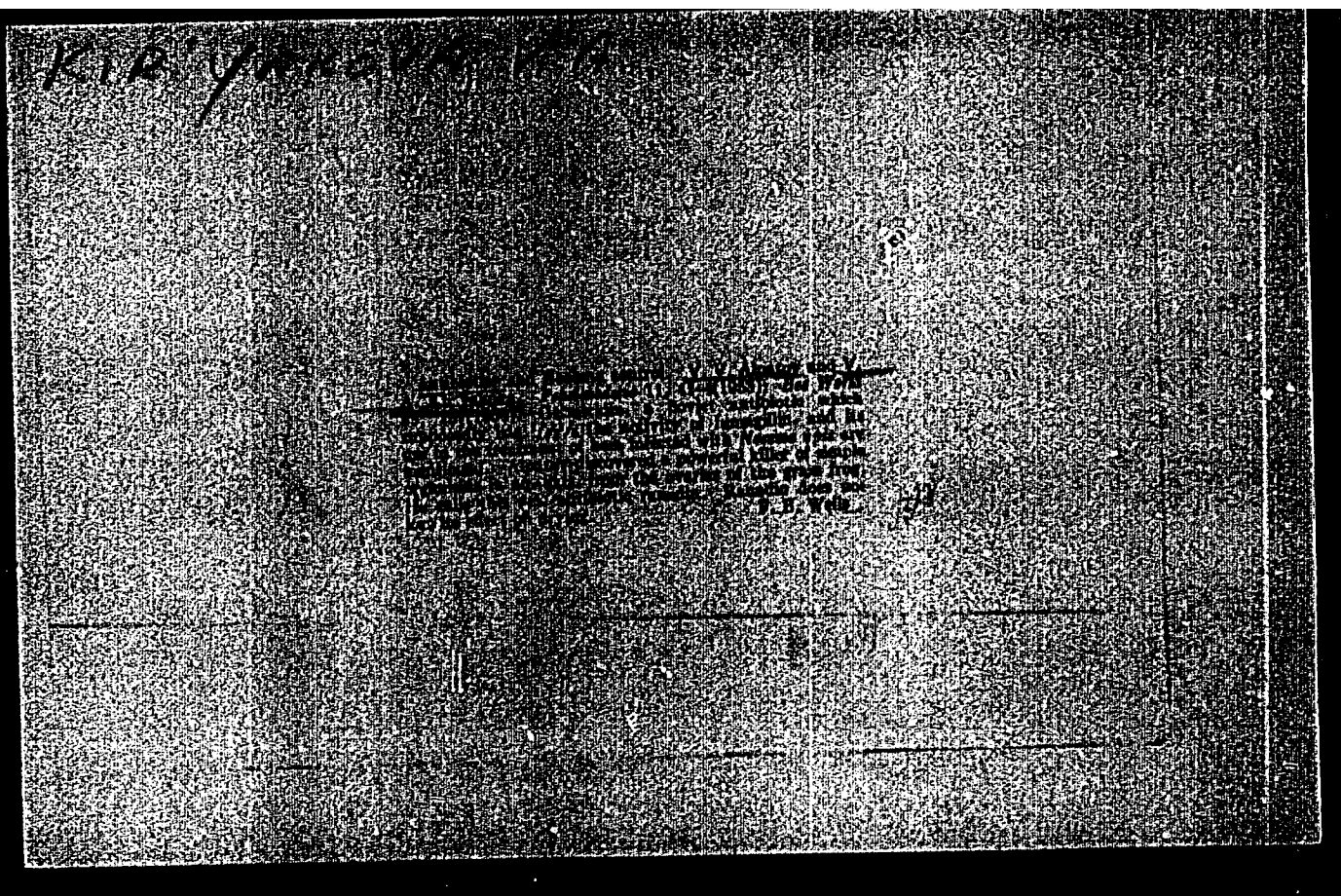
Card 2/2



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Dissertation: "Data on the Pathological Physiology and Biology of Bees Infected with Nosema and the Chemotherapy of Nosematosis." Moscow Order of Lenin State U imeni M. V. Lomonosov, 11 Jun 47.

SO: Vechernyaya Moskva, Jun, 1947 (Project #17836)



KIR'YAKOVA, V. A.

Yeast

Effect of yeast feed on the development and productivity of honey bees,  
Pchelovodstvo 30 No. 2, 1953

Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

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Economic characteristics of honeybees and the effect of high and low hive entrances on the temperature inside the hive. Uch.zap. Kursk.gos.ped.inst. no.4:70-83 '57. (MIRA 12:4)

1. Iz kafedry biologii (zav. - prof. B.R. Geller) Kurskogo gosudarstvennogo pedagogicheskogo instituta.  
(Bee culture)

KIR'YAKOVA, V.A., kand.biol.nauk

~~Excursion to the apiary. Biol. v shkole no.4:61-64 J1-Ag '58.~~  
(MIRA 11:9)

1. Kurskiy pedagogicheskiy institut.  
(Bee culture--Study and teaching)

KIR'YAKOVA, V.A.

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1. Kafedra zoologii Kurskogo gosudarstvennogo pedagogicheskogo  
instituta.

YERU, I.I.; LANGE, A.A.; TIMOSHENKO, V.A.; KIR'YAKOVA, Ye.T.

Hydrogenation of naphthalene and naphthalene-containing oils.  
Koks i khim. no. 5:44-46 '61. (MIRA 14:4)

1. Ukrainskiy uglekhimicheskiy institut.  
(Naphthalene) (Hydrogenation)

KIR'YAKOVA, Ye.V. (Moskva)

"Forty years of the I.V.Rusakov Moscow Children's Clinical Hospital,  
1917-1957." Edited by V.A.Krushkov. Reviewed by E.V.Kir'iakova.  
Fel'd. 1 akush. 25 no.8:63-64 Ag '60. (MIRA 13:8)  
(MOSCOW-CHILDREN-HOSPITALS) (KRUSHKOV, V.A.)



KIR'YAKULOV, G.S.

Arterial connections of the placenta in multiple pregnancy.

Arkh. anat., gist. i embr. 49 no.9:55-58 S '65.

(MIRA 18:12)

1. Kafedra topograficheskoy anatomii i operativnoy khirurgii  
(zav. - dotsent D.G.Doviner) Donetskogo gosudarstvennogo medi-  
tsinskogo instituta imeni A.M.Gor'kogo. Submitted May 6, 1964.

KIRYAKULOV, G.S.

Anastomoses of the umbilical arteries and their role in collateral blood circulation. Arkh. anat., gist. i embr. 8:39-43 '63.

(MIRA 17:12)

1. Kafedra topograficheskoy anatomii i operativnoy khirurgii (rav. dotsent M.S.Leychik, rukovoditel' - D.G.Doviner) Donetskogo meditsinskogo instituta A.M.Gor'kogo.

KIR'YAKULOV, G.S., assistant

Anomalies of the umbilical arteries. Akush. i gin. 39 no.4:  
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KIR'YANOVA, O.S., dotsent

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